



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,923	11/14/2003	Wen-Jian Lin	4006-275	7651

22429 7590 04/12/2005

LOWE HAUPTMAN GILMAN AND BERNER, LLP
1700 DIAGONAL ROAD
SUITE 300 /310
ALEXANDRIA, VA 22314

EXAMINER

STULTZ, JESSICA T

ART UNIT PAPER NUMBER

2873

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,923

Applicant(s)

LIN, WEN-JIAN

Examiner

Jessica T. Stultz

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 9-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0504.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Election/Restrictions***

Applicant's election of Group I, claims 1-8 in the reply filed on February 28, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "6122". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to comply with 37 CFR 1.84(p)(5) because it does not include the following reference character(s) from the drawings: "6162". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in

Art Unit: 2873

reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 3 is objected to because of the following informalities: "the second electrode to generate displacement" should be "the second electrode able to generate displacement".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bozler et al in view of Revelli et al.

Regarding claim 1, Bozler et al discloses an optical interference display unit (Column 6, lines 28-30 and Column 15, line 11-Column 16, line 11, wherein an optical display unit is disclosed which undergoes interference, Figures 26A-B, 27A-B, and 28A-B) at least comprising: a first electrode (Column 15, line 27-Column 16, line 11, wherein the first electrode is "912",

Art Unit: 2873

Figures 27A-B); a second electrode, wherein the second electrode is settled in parallel with the first electrode (Column 15, line 27-Column 16, line 11, wherein the second electrode is “902”, Figures 27A-B); and posts located between the first electrode and the second electrode to form a cavity (Column 15, line 27-Column 16, line 11, wherein the posts are supports “916”, Figures 27A-B); wherein a stress of the second electrode is varied to define a corresponding length of the cavity (Column 15, line 27-Column 16, line 11, wherein the second electrode “902” is deformable due to stress placed on the electrode to change the length of the cavity, Figures 27A-B and 28A-B) after treating the second electrode by a thermal process (Column 16, line 14-Column 17, line 58, wherein the device is made by a process including baking and heating, Figures 29A-L), but does not specifically disclose that the thickness of the second electrode is adjusted. Revelli et al teaches of an optical display unit (Column 5, line 66-Column 7, line 41, wherein the display is a liquid crystal display, Figures 1-2, 4, and 6) comprising two electrodes in parallel (Column 5, line 66-Column 7, line 41, wherein the two electrodes in parallel are “26” and “28”, Figures 1-2) wherein the thicknesses of the electrodes are adjusted for the purpose of providing a support for the liquid crystal device and to supply an alternating current to the device (Column 5, line 66-Column 7, line 41). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the display device of Bozler et al to further include adjusting the thickness of the second electrode since Revelli et al teaches of an optical display unit comprising two electrodes in parallel wherein the thicknesses of the electrodes are adjusted for the purpose of providing a support for the liquid crystal device and to supply an alternating current to the device.

Regarding claim 2, Bozler et al and Revelli et al disclose and teach of an optical display as shown above and Bozler et al further discloses that the thermal process is baking (Column 16, line 14-Column 17, line 58, wherein the device is made by a process including baking and heating, Figures 29A-L).

Regarding claim 3, Bozler et al and Revelli et al disclose and teach of an optical display as shown above and Bozler et al further discloses that the thermal process makes the second electrode able to generate displacement due to stress (Column 15, line 27-Column 16, line 11, wherein the second electrode "902" is deformable due to stress placed on the electrode to change the length of the cavity, Figures 27A-B and 28A-B).

Regarding claim 4, Bozler et al and Revelli et al disclose and teach of an optical display as shown above and Bozler et al further discloses that the second electrode is a deformable electrode (Column 15, line 27-Column 16, line 11, wherein the second electrode "902" is deformable due to stress placed on the electrode to change the length of the cavity, Figures 27A-B and 28A-B).

Regarding claim 5, Bozler et al and Revelli et al disclose and teach of an optical display as shown above and Bozler et al further discloses that the second electrode is a movable electrode (Column 15, line 27-Column 16, line 11, wherein the second electrode "902" is deformable, and therefore movable, due to stress placed on the electrode to change the length of the cavity, Figures 27A-B and 28A-B).

Regarding claim 6, Bozler et al and Revelli et al disclose and teach of an optical display as shown above and Bozler et al further discloses that the posts are formed of a photoresist

Art Unit: 2873

(Column 16, line 14-Column 17, line 58, wherein the device is made by etching a photoresist and therefore forming the posts between the electrodes, Figures 29A-L).

Regarding claim 7, Bozler et al and Revelli et al disclose and teach of an optical display as shown above and Bozler et al further discloses that the second electrode is made of a conductive transparent material (Column 15, line 27-Column 16, line 11, wherein the second electrode "902" is a transparent conductor, Figures 27A-B).

Regarding claim 8, Bozler et al and Revelli et al disclose and teach of an optical display as shown above and Bozler et al further discloses that the posts comprise arms located under the second electrode (Column 15, line 27-Column 16, line 11, wherein the posts are supports "916" which are arms located under the second electrode "902", Figures 27A-B).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miles 6,674,562 and Blonder et al are cited as having some similar structure to the claimed invention since they disclose display devices having a variable cavity in between two electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica T. Stultz whose telephone number is (571) 272-2339. The examiner can normally be reached on M-F 8-4:30.

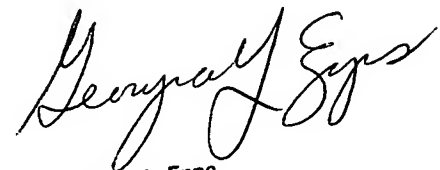
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2873

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jessica Stultz
Patent Examiner
AU 2873
April 5, 2005



Georgia Epps
Supervisory Patent Examiner
Technology Center 2800